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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,812	11/18/2003	Jong-Hoon Oh	2003P52888US	5194
46798	7590	08/22/2006	EXAMINER	
PATTERSON & SHERIDAN, LLP Gero McClellan / Infineon Technologies 3040 POST OAK BLVD., SUITE 1500 HOUSTON, TX 77056			LE, THONG QUOC	
			ART UNIT	PAPER NUMBER
			2827	
DATE MAILED: 08/22/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/715,812

Applicant(s)

OH, JONG-HOON

Examiner

Thong Q. Le

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-15, 17 and 20-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-15, 17, 20-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Amendment filed on 06/13/2006 has been entered.
2. Claims 11-15,17,20-27 are presented for examination.

***Response to Arguments***

3. Applicant's arguments with respect to claims 11-15,17,20-27 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

- The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).
5. Claims 11-15,17,20-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Schoenfeld et al. (Pub. U.S. 2005/0078539).

Regarding claim 11, Schoenfeld disclose a method for selectively refresh rows of memory cells in one or more semiconductor memory devices (ABSTRACT), comprising:

Monitoring ([0005]), by a memory controller coupled with the semiconductor memory devices, write operations to the memory cells ([0027], [0029], claim 12);

maintaining ([0002]) a plurality of bits indicative of rows containing memory cells involved in the monitored write operation on the memory controller ([0026]);

transferring a first plurality of the bits to a first memory device ([0022]); and

placing the first memory device in a self-refresh mode, in which refresh operations are performed for only those rows containing memory cells involved in the monitoring write operations, as indicated by the first plurality of bits ([0022], [0025]).

Regarding claim 13, Schoenfeld et al. disclose a semiconductor memory device (Figure 1) comprising:

a plurality of rows memory cells (Figure 1, inherently including row of memory cells);

a refresh circuitry ([0009], a refresh circuit) configured to issue refresh requests ([0020], when an refresh operation has been requested) for the rows of memory cells when the memory device is placed in a refresh mode ([0017]);

row state circuitry (Figure 1, 104) configured to maintain a plurality of bits indicative of rows that are to be refreshed ([0018]);

interface circuitry (Figure 1, I/O gating) configured to receive the plurality of bits from a memory controller ([0022] memory controller applies bit data) and transfer the plurality of bits to the row state circuitry (; and

refresh enable circuitry (Figure 3,[0027]) configured to limit the number of rows for which refresh request are issued based on the bits of the row state ([0018], refresh row address from refresh counter).

Regarding claim 14, Schoenfeld et al. disclose wherein the refresh enable circuitry (Figure 4) is configured to limit the number of rows for which refresh requests are issued by generating a signal used to inhibit refresh request ([0030]).

Regarding claims 15, 17, 23, Schoenfeld et al. disclose wherein the signal is generated by accessing a bit corresponding to a row address generated by a refresh address counter ([0018]), and wherein each bit corresponds to a single row of memory cells ([0018-0020]).

Regarding claim 20, Schoenfeld et al. disclose a system (Figure1) comprising:

A memory device (Figure 10 having a plurality of rows of memory cells (Figure 1, 112[0018]), wherein the memory device is configured to limit the number of rows that are refreshed, during self-refresh mode, based on row data indicative of rows that are to be refreshed ([0018]); and

a memory controller ([0022]) configured to monitor write operations to the memory device, generate the row data based on the monitored write operations ([0027], [0029], Column 6, claim 12), and transfer the row data to the memory device prior to placing the memory device in the self-refresh mode ([0008], [0026]).

Regarding claim 21, Schoenfeld et al. disclose the row data is stored in the memory device in an array of memory cells ([0018] the data stored in memory cells in

the activated row); and the memory controller configured to reset the array of memory cells prior to transfer the row data to the memory device ([0024-0025]).

Regarding claim 22, Schoenfeld et al. disclose wherein the memory controller is configured to reset the array of memory cells by writing to a mode register (Figure 1, 64) of the memory device.

Regarding claim 24, Schoenfeld et al. disclose wherein the plurality of bits is indicative of rows that have been written to and are to be refreshed ([0022]).

Regarding claims 25-27, Schoenfeld et al. disclose issuing a self-refresh command from the memory controller to the memory device (Figure 1, CONT, [0017]).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Le whose telephone number is 571-272-1783. The examiner can normally be reached on 8:00am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarabian Amir can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Thong Q. Le'.

Thong Q. Le  
Primary Examiner  
Art Unit 2827

8/17/2006